GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

UNSTARRED QUESTION NO:4296
ANSWERED ON:17.12.2002
GENETICALLY ENGINEERED MUSTARD
SURESH RAMRAO JADHAV (PATIL)

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether the genetically engineered mustard being considered for induction in India by the Government contains genes of tobacco which has harmful effects on the consumers;

(b) if so, the reasons for taking such a step;

(c) whether any detailed study has been made to find out the engineered food/agriculture varieties;

(d) if so, the details thereof;

(e) whether the Government can not augment local mustard production rather than going for genetically engineered imported varieties;

(f) whether the Government can not augment local mustard production rather than going for genetically engineered imported varieties;

(g) if not, the reasons therefore?

Answer

MINISTER OF STATE FOR SCIENCE AND TECHNOLOGY (SHRI BACHI SINGH RAWAT)

(a) & (b) : The genetically engineered mustard, which is under consideration for release by the Government of India, does not contain any genes from tobacco. It contains barnase, barstar and bar genes, which were isolated from the common soil microorganisms.

(c)&(d) : Studies on food safety and agronomic advantage of transgenic mustard were conducted in detail. The feed and food safety studies conducted on transgenic mustard covered; irritation to mucous membrane in rabbits, neurotoxicity study in hen, dermal sensitization study in guinea pigs, primary skin irritation tests in rabbits, 90 days oral toxicity study in rabbits and goats. Results of these studies showed that the transgenic mustard is non-toxic and non-allergenic. In limited field trials, the transgenic mustard hybrids had shown 15-20% yield advantage over national and regional checks.

(e),(f)&(g): It has been noted that mustard seed production in the last several years has plateaued; thus there is need to inject new science into this. Introduction of genetically engineered varieties for enhancement of mustard production is one of the important options for increasing the seed production. The transgenic mustard developed in India is by transferring the genes through breeding methods into local varieties using precision tools of biotechnology.